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WOOD - THE MATERIAL OF A THOUSAND USES

(Radio talk by Dr. Warren D. Brush, of the Division of Forest Products, Forest Service, U. S. Department of Agriculture, National Farm and Home Hour, September 18, 1936.)

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To say that wood is the "material of a thousand uses" is really little more than a figure of speech. The material of a hundred thousand uses would perhaps be more like it.

Wood is the universal material. Nobody has ever made a satisfactory count of its uses because he wouldn't know where to stop counting. Consider a few of the things around us made of wood: implements for work, and toys for play, houses, furniture, newspaper -- conveniences and necessities supplied by wood at every turn of our pathway -- literally, from the cradle to the grave.

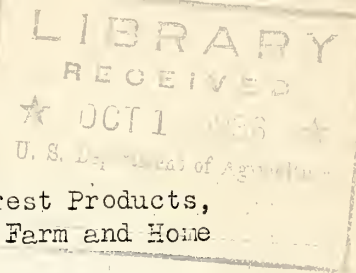
The Forest Products Laboratory, a research institution of the U. S. Forest Service, maintained at Madison, Wisconsin, once undertook to make an official count of wood uses. When I last heard, the number was over four thousand, and the argument had only started over how general or how specific a use had to be to get on the list -- for instance, whether building construction was to be considered as only one, or as a host of uses. When you've taken into consideration the sills, joists, studding, lath, moulding, sheathing, siding, shingles and many other parts of the finished house -- there are probably a thousand single uses to which wood is put in building construction.

One well-known wood cellulose plastic alone claims 25,000 uses -- including conversion products -- all the way from dolls' eyes to advertising signs. And every day the uses of wood fiber as the basis for such products is increasing.

Our nation was founded on wood, and built up on wood. It fits into every moment of every one of our daily activities. It's one of the handiest, all around materials. Even the use of something else usually carries with it some kind of a job for wood. Concrete, for example, requires wood for the forms into which it must be poured.

We often hear the question: How much wood is used in the United States during an average year? The answer is: Some fifty billion board feet. To visualize that, think of a boardwalk forty feet wide and an inch thick, and in your imagination, extend that boardwalk from where you stand straight out to the moon. That's fifty billion board feet.

Over half that amount, of course, goes into building construction -- not only for shelter, but for protection, comfort, and beauty as well. Perhaps the second most important use of wood lies in its contribution to our intellectual life -- in the provision of the cheap and abundant materials for printing our books, magazines, and newspapers. A highpoint in our culture came with the discovery only three quarters of a century ago that wood fiber



could take the place of cotton or linen in paper manufacture. Today we use more than 4,000,000 tons of newsprint a year. Two hundred pounds of this amount is every man's annual share of all kinds of paper. Seventy-five years ago, when the ragpicker was the nation's chief paper-purveyor, this annual share was less than ten pounds per man.

Newsprint, however, takes only about a third of our wood-pulp production. The rest comes out of the mills in myriad forms: writing paper, boards in which to ship everything from soap to axe-heads; sanitary cartons for prunes, cereals, butter, ice cream; paper cups and plates, and forks and spoons; disposable napkins, towels, handkerchiefs; it wraps groceries and meats, dry goods, in fact, it cushions all the rough angles of existence, and experts predict that by 1950 we shall be using for all purposes, 25,000,000 tons of wood-pulp annually - twice our present consumption.

For millions of Americans wood is still the old reliable fuel to heat their homes and to cook their meals; this is really the second largest use of wood, next to building. And nobody can predict what the future will bring in the matter of wood fuel. Both gas and alcohol are already being produced from wood that may drive the cars of tomorrow. Only this spring a German scientist drove his car all the way from Berlin to London on gas made from wood that cost him just \$4!

And so it goes. The Forest Service's Forest Products Laboratory is carrying on a specialized program of research into the uses of wood. Just now one of the things they are working on is the prefabricated house of wood, to be built by mass production in factories and erected complete in a week or less on the building site. They are developing the more efficient use of timber in large structures through the improvement of joints and fastenings - as on bridges, arched halls, and hangers.

At least equally important will be the development of sheet materials from wood, both plywood and plastics, and a bewildering variety of chemical products of cellulose - nitrates, acetates, pulp products, textiles, transparent films, artificial silks, lacquers, and all that class of material. Parts of the wood substance not now utilized, particularly that 25 percent fraction known as lignin, may be the source of new products, and there seems better than an even chance that bacteria and ferments will be put steadily to work turning out fuels and other useful materials from wood waste.

No, we are not outgrowing the age of wood, as some would say. In fact, according to present indications, we are only into growing it. Our Forest Products Laboratory is working toward more efficient utilization of wood - toward less waste, toward broader fields of use and better results in present uses.

But along with our increased use of wood, the Forest Service is charged with the duty of increasing and stabilizing the production of wood from our nation's forests and of spreading knowledge and aiding timberland owners to build up continuous crops of trees rather than to devastate forests and thus destroy our wood supply at its source. One of the most important things about wood as a raw material is that it is renewable. By practicing sound

forestry, we can grow successive crops; we can keep up the supply forever.

Many people are sensitive to the destruction of living trees to make fuel, lumber, pulp, and so forth. It hurts them like killing their best friend; How do foresters look at that question?

We look at both sides of it, and try to be practical. We place the very highest value on the living forest; it is the end for which we are working. It is the friend of man and of the land in ways and to a degree beyond calculation. But we know, too, that the use of wood does more than any other one thing to give the tree an economic value in itself -- to make it worth while to grow it, just as the use of flour makes the growing of wheat a practical proposition for the farmer, and not a luxury. Certainly, the Forest Service does not intend to destroy any forest anywhere, but to build it up into a continuous, rotating crop; and we believe, with Theodore Roosevelt, that "Conservation of forests means wise use."

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